

REMARKS

Applicant appreciates the thorough examination of the application as evidenced by the Official Action dated September 13, 2006 (the Action).

In response, Claims 1, 12 and 16 have been amended such that Claim 1 corresponds to Claim 3 rewritten in independent form (including intervening Claim 2), Claim 12 corresponds to Claim 14 rewritten in independent form (including intervening Claim 13), and Claim 16 corresponds to Claim 18 rewritten in independent form (including intervening Claim 17). Claim 20 is new. Support for Claim 20 can be found in original Claim 1 and Claims 6-7. Claims 2-3, 13-14 and 17-18 have been canceled. Minor claim amendments have been made to correct claim dependencies.

Applicant submits that the pending claims are patentable over the cited art in view of the above amendments and for at least the reasons that follow.

Independent Claim 1 is patentable.

As noted above, Claim 1 corresponds to original Claim 3 rewritten in independent form. The Action rejects Claim 3 under § 103 as being unpatentable over U.S. Patent No. 6,088,732 to Smith et al. ("Smith") in view of U.S. Patent No. 6,014,707 to Miller ("Miller").

Claim 1 recites a method for controlling the periodic data transfer between a first computer processor and a second computer processor, wherein the first computer processor and the second computer processor comprise a network system. The method includes the following:

transferring data between the first and second computer processor based on an impact of the transfer on a dynamically determined measure of performance, wherein transferring data between the first and second computer processor based on an impact of the transfer on a measure of performance comprises,

monitoring a real time availability of a system resource, and
transferring data between the first and second computer processor based on a comparison of the availability of a system resource to a predetermined threshold; and

transferring data between the first and second computer processor if a predefined maximum time between transferring data has elapsed irrespective of the availability of the system resource.

As discussed in the Specification, it may be desirable to transfer data, such as to replicate or back up the data, at least as often as a predefined maximum time irrespective of the availability of the system resource.

Performing some types of data transfer functions periodically, such as data replication and backup, may be necessary for system functionality. As illustrated in **Figure 5**, the data transfer generally occurs based on the determination of resource availability (Block **502**). However, if a maximum time has been reached, then the data can be transferred regardless of resource availability. Accordingly, data transfer occurs at least as often as the maximum time interval.

See Specification, paragraph 35 of U.S. Patent Application Publication No. 2005/0010677.

The Action concedes that Smith does not disclose transferring data if a predefined maximum time between transferring data has elapsed irrespective of the availability of the system resource. The Action takes the position that Miller discloses this feature at column 8, lines 10-18. Applicant respectfully disagrees with the Action's characterization of Miller. Applicant submits that Miller merely proposes retrying a request for a protocol data unit (PDU) if a timer times out when the original request is lost in the network or discarded by the server due to overload. Portions of column 8, lines 6-18 of Miller are reproduced below:

To initiate a data transfer, the client sends a request ... A timer is then set by the client to await the arrival of the first incoming data PDU specifically a first DownloadData message. The value of the timer should be relatively large, on the order of seconds, in order to avoid prematurely giving up on the request. If the timer times out, there are three possibilities. Either the original request was lost in the network, the request was discarded by the server due to overload, or the data PDUs are in transit. In the first two cases, the behaviour of the client will be to retry the request anyway, increasing the timeout with each retry. The consequences of waiting too little outweigh the cost of waiting too long.

The timer in Miller is based on a response time following a data request, and as such, the timer of Miller does not take into consideration the time that elapses between transferring

data. Accordingly, Miller does not teach or suggest "transferring data between the first and second computer processor if a predefined maximum time between transferring data has elapsed irrespective of the availability of the system resource" as recited in Claim 1.

In addition, there is no motivation to combine Smith and Miller. Smith is directed to controlling a transfer of information based on comparing the resources required and the resources currently available at a remote apparatus to ensure that the remote apparatus only receives information that it is capable of processing. *See* Smith, col. 2, lines 15-29. If the remote apparatus of Smith only receives information that it is capable of processing, the timer of Miller, which retries the request after a timeout, appears unnecessary. Therefore, Smith teaches away from the timer of Miller.

Applicant submits that Smith and Miller do not disclose all of the recitations of Claim 1 and there is no motivation to combine Smith and Miller as required by § 103. Accordingly, Claim 1 is patentable at least for the reasons discussed above. Claims 12 and 16 correspond generally to the recitations of Claim 1 and are also patentable over Smith and Miller for similar reasons. Claims 4-11, 15 and 19 are patentable at least per the patentability of the claims from which they depend.

Claim 20 is patentable

Claim 20 recites a method for controlling the periodic data transfer between a first computer processor and a second computer processor. The first computer processor and the second computer processor comprise a network system. The method includes:

transferring data between the first and second computer processor based on an impact of the transfer on a dynamically determined measure of performance, wherein transferring data between the first and second computer processor further comprises replicating data and/or backing up data.

The Action concedes on pages 9-10 that Smith as modified by Miller does not disclose replicating data or backing up data with respect to original Claims 6-7. The Action takes the position that U.S. Patent No. 6,625,623 to Midgley ("Midgley") discloses data replicating and

backing up data in the Abstract, lines 1-7. The Action states that the motivation would have been "to save and retrieve data in case the data was lost" (citing col. 2, lines 1-2 of Midgley).

Applicant submits that there is no suggestion or motivation to combine Midgley with Smith. Smith is concerned with the problem of "negotiating a quality of service for a multimedia application over a network of heterogenous terminals." Col. 1, lines 32-34. In Smith, an information destination **2** requests information from an information source **1**. A comparator **5a** makes a comparison of information requirements **3** and apparatus resources **4**. The comparator **5a** determines if the apparatus resources **4** are compatible with the information requirements **3**. Col. 5, lines 41-64. Smith further states that "[i]n this way, passage of information over the communication link is controlled in order to avoid wasteful passage of information which cannot be used at the information destination." Col. 5, lines 60-64. The information requirements **3** include requirements for a certain type of processor, minimum memory requirements, a type of display, and a certain type of application for one of the heterogenous terminals. Col. 6, lines 8-23. "Terminals throughout the network can thus have different levels of service dependent upon how the specific terminal resources and the specific network resources match the specific user's profile and the application requirements." Col. 6, lines 58-61.

In contrast, Midgley discusses the continuous back up of data stored on a computer network using a single backup server. *See Abstract*. The data is backed up using a backup server **12**, a long-term storage system **14** and a cache storage system **16**. Col. 7, lines 16-24 and **Figure 1**. Applicant submits that there is no motivation to combine the techniques of Smith for transferring data to a network of heterogeneous terminals based on individual requirements of the terminals to the techniques of Migley, which transfer data to a single backup server.

For at least these reasons, Applicant submits that Claim 20 is patentable over the cited art and request that Claim 20 proceed to allowance.

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CONCLUSION

Accordingly, Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,

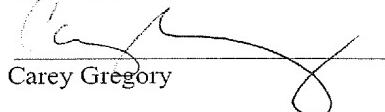


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CERTIFICATION OF TRANSMISSION

I hereby certify that this correspondence is being transmitted electronically to the U.S. Patent and Trademark Office on December 5, 2006.



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